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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,337	05/10/2007	Wolfgang Podszun	CH-8471/CHS 03 1004	9787
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Nicanor A. Kohncke LANXESS Law & Intellectual Property Department 111 RIDC Park West Drive Pittsburgh, PA 15275-1112			EXAMINER BERNSHTEYN, MICHAEL	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 09/17/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/588,337

Applicant(s)

PODSZUN ET AL.

Examiner

MICHAEL M. BERNSTEYN

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 1-3, 5, 6 and 11-13 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/US)
Paper No(s)/Mail Date 03/21/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1, 2 and 5 are objected to because of the following informalities: the use of the phrases "preferably", "more preferably", etc. to link a broad range of values with a narrow range of values renders the claims awkward and not in the compliance with the current US practice. It is not clear which range controls the actual metes and bounds of the claimed subject matter. It is suggested to put preferable range in the dependent claims. Appropriate correction is required.

2. Claims 2, 3, 5, 6 and 11-13 are objected to because of the following informalities:

Claims 2, 3, 5, 6 and 11-13 recite the limitation 'obtainable'. This rationale is applicable to polymer "obtainable" by a stated process because any variation in any parameter within the scope of the claimed process would change the polymer produced. One who made or used a polymer made by a process other than the process cited in the claim would have to produce a polymer using all possible parameters within the scope of the claim, and then extensively analyze each product to determine if this polymer was obtainable by a process within the scope of the claimed process. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 3 the phrase "can be" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

4. Claims 11-13 provide for the use of the monodisperse acrylic-containing cation exchanger, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 11-13 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karlou-Eyrisch et al. (DE 100 61 544 A1).

With regard to the limitations of claims 1-9, Karlou-Eyrisch discloses (page 1) a method of production of soft, monodisperse, spherical seed polymers with an average particle size from 2 to 100 μm after a seed inlet method, characterized in that

A) a monodisperse, spherical copolymers with a particle size of 1 to 20 μm as seed in an aqueous continuous phase suspended,

B) adding to this suspension a mixture from monomers, initiator (inlet) whereby this mixture added into the seed in-pours,

C) polymerization of the poured seed to seed polymer with elevated temperature, wherein the mixture contains:

- a) 20-85% by weight of (meth)acrylic acid ester with C4 to C18 alkyl groups,
- b) 10-50% by weight of a water-soluble monomer
- c) 1-20% by weight of a crosslinker,
- d) 0-25% by weight of other monomer and
- e) 0.05-5% by weight of initiator.

It is noted that all ranges of the amounts overlaps the claimed ranges, therefore the rejection is made under 35 U.S.C. 103(a), not under 35 U.S.C. 102(b).

Karlou-Eyrisch discloses that in order to obtain and suppress around an undesirable polymerization of the inlet in the water phase high yields, the water phase water-soluble radical scavengers can become added if necessary. The concentration of the inhibitor which can be used if necessary amounts to 5-1000 ppm, preferably 10-500 ppm, particularly preferred 20-250 ppm, related to the aqueous phase.

In a preferable embodiment of the seed inlet method the presence of a dispersing agent conducted becomes valuable. Preferable dispersing agents are natural or synthetic water-soluble polymers, like gelatin, starch or cellulose derivatives, in particular cellulose esters or cellulose ethers, furthermore polyvinyl alcohol, polyvinylpyrrolidone, polyacrylic acid, polymethacrylic acid or copolymers from (meth) acrylic acid or (meth) acrylic acid esters, and in addition also with alkali metal hydroxide

of neutralized copolymers from methacrylic acid or methacrylic acid ester (page 2, the last two paragraphs).

In a particular embodiment aqueous emulsion is added in the inlet. The usage of the emulsion ionic or nonionic surfactants becomes important. Examples for nonionic surfactants are the ethoxylated nonylphenole. As anionic surfactants alkyl sulfonates and the sodium salts of sulfo succinic acid esters are particularly suitable. N-alkyl ammonium salts, as for example methyltricaprylammoniumchlorid are mentioned as cationic surfactants. Preferred one becomes a combination from ionic and nonionic surfactant, for example, a mixture from ethoxylated nonylphenols and sodium salts. The surfactant usually is added in an amount from 0,05 to 5% by weight, preferably from 0,1 to 2% by weight related to the inlet used. The addition of the inlet emulsified if necessary (step B) made for example with room temperature. Normally the inlet is added within some hours of the suspended seed. Also possible so called "dynamic" seed inlet method is to be used. This variant makes the addition of the inlet with a temperature and the added initiator, over a longer period, for example, from 2 to 10 hours.

The introduction of the polymerization (step C) the poured seed becomes heated on a temperature, is active with which the applied initiator. The temperature is generally between 50⁰ and 100⁰C, preferably between 75⁰ and 85⁰C. The polymerization lasts from 0.5 h to some hours. After the polymerization the seed inlet polymer can become particularly favorable from the reaction mixture by filtration or by sedimentation with the

help of a centrifuge or a decanter isolated and or several laundries if necessary a dried (page 3).

With regard to the limitations of claims 11-13, Karlou-Eyrisch discloses use of the monodisperse seed polymers to the coating or modification of surfaces, as spacers for film materials, as carriers for catalysts or biological active substances, as calibration substances for light scattering measurements or as starting materials for chromatography resins and ion exchangers (claim 8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL M. BERNSHTEYN whose telephone number is (571)272-2411. The examiner can normally be reached on M-Th 8-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael M. Bernshteyn/
Examiner, Art Unit 1796

/M. M. B./
Examiner, Art Unit 1796